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ABSTRACT

To determine the processes of information utilization and decision making at the local school district level, a survey was conducted in 65 school districts in three San Francisco Bay area counties. Responses from 400 participants--comprising 60 percent of the selected sample of superintendents, assistant superintendents, specialists, principals, and teachers--were analyzed. Items on the survey questionnaire dealt with (1) sources of information for educational planning and decision making and their frequency of use, (2) modes of communication used, (3) extent of participation, (4) educational planning areas, and (5) information needs. Findings of the study included identification of the most frequently used information sources, kinds of communication modes used, major problems in effective information utilization, and the determination of what decisions are regarded as most important. (JK)

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A SURVEY OF THE DECISION PROCESSES AND RELATED INFORMATIONAL REQUIREMENTS FOR EDUCATIONAL PLANNING AND INNOVATION

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A SURVEY OF THE DECISION PROCESSES AND RELATED INFORMATIONAL REQUIREMENTS FOR EDUCATIONAL PLANNING AND INNOVATION

Educational practitioners encounter many problems in acquiring and using the information they need for their planning, decision-making and implementation activities. The information, especially if it concerns local school district programs, may not have been printed and distributed. Since there is a great deal of information, searching is arduous, and the necessary search and retrieval tools may not be at hand. If information can be obtained, it may be in an unsuitable format, too lengthy, or not presented in terms that can be readily understood or assimilated by local school personnel.

The literature on educational change processes and decision-making is voluminous, but most of it has only limited relevance to the operational problems and the specific information needs of various audiences. The study here reported was designed to investigate the processes of information utilization and decision-making in education at the local school district level. This was done by means of a survey conducted in 65 school districts in three counties in the San Francisco Bay Area. The study was supported by the Far West Laboratory for Educational Research and Development in Berkeley, California.

Description of the Sample of Districts

Certain district characteristics appear to be relevant to information needs and decision processes and might be expected to relate differentially to such needs and processes. These include number of pupils in the district, expenditures per pupil, level of education (elementary or secondary or unified), and urban or rural characteristics. Representation of variations

in all of these characteristics was sought. Preliminary study of the distribution and type of school districts in the three counties chosen indicated a total of 76 districts. Most were urban or suburban, but some could also be classified as rural. Seven districts had less than 300 students and there was limited role differentiation within them so they were eliminated from further consideration. Seven others were unable to participate for one reason or another. Of the 63 remaining, 56% were elementary districts, 14% were high school districts and 30% were unified districts. Average daily attendance ranged from 300 to 62,800 students, with a median of 5,700. Expenditures per student ranged from $442 to $1393 with a mean of $629.

Within each district, questionnaires were distributed to the superintendent and an assistant superintendent, two members of the district staff, usually specialists or consultants in curriculum and instruction, four principals and four teachers. These categories represent all of the significant roles in the decision process at the local level. Questionnaires were delivered to school districts in person and potential respondents were selected at random in all categories but that of superintendents. Questionnaires were distributed to those selected through the district's internal mail system and returned to SRI directly through the U.S. Mail. They were anonymous and there was no follow-up on non-respondents. About 60% or 400 returned questionnaires, and the returns were in about the same proportion by personnel category as was the case with the original distribution.

Questionnaire Design

The number of items needed to cover the material was too large for a single questionnaire, so two forms were designed for administration to separate but comparable districts and groups of educational personnel. About 20 minutes were required to complete each form.

Subjects covered in the questionnaires were:

. Sources of information for educational planning and decision-making. Responses indicated the frequency with which each of 26 educational information sources had been used.

. Modes of communication used in the process of educational planning and decision-making. Responses indicated the frequency with which 16 modes of communication had been used.

. Problems in the interpretation and utilization of educational information. Responses were required on 14 problems associated with information utilization; respondents were asked to estimate the amount of difficulty encountered.

. Extent of participation in decision-making. Respondents indicated the extent of their own participation in each of 24 planning areas, e.g., teacher selection, school plant expansion plans, methods of instruction, building rules, and regulations.

. The incidence of breakdown in educational planning caused by a lack of adequate information. Respondents were asked to describe situations in which planning had been inhibited by a lack of information and to indicate what information was lacking or inadequate.

- The relative importance of various educational decisions. Forty specific educational decisions were presented. Respondents were asked to rate the importance of these decisions in the general context of the educational process and the functioning of school systems.

- Deterrents to effective educational decision-making. Eighteen possible deterrents to educational decision-making were rated according to their degrees of severity. Included were need to satisfy diverse groups, problem definition, and other possible difficulties.

- Educational planning areas and information needs. Six areas of educational planning, such as curriculum planning and new methods of instruction, were presented, each with a list of associated information items. Respondents were asked to indicate the level of importance of each information item relative to that planning area.

- Difficulty in obtaining information relevant to educational planning. The same planning areas and information items as specified above were rated as to difficulty of obtaining the information.

- Internal and external sources of information relevant to innovation. Sixteen innovations were presented and respondents were asked to indicate from what external and internal sources information on each of the 16 innovations was obtained.

It will be noted that most questions were composed of items on which ratings were asked on a three or four point scale. The exceptions were the critical incident item and the question on internal and external sources of innovation.

Method of Analysis

Response frequencies were computed for each item on each question for which the rating format was used. Each scale point was given an arbitrary value of one, two, three or four, and means were computed for each item using these arbitrary values. Means were computed separately for each category of respondent (superintendent, staff member, principal, and teacher). Separate means were also computed for four categories of district size, four categories of expenditures per pupil and four categories of years of experience or respondents. The means so computed were used in a multiple regression analysis resulting in correlations between any one of the four factors of interest specified above and the average scores for all individuals replying to all items comprising a question. A high correlation between any factor and the averaged scores for the entire question required a statistical test of differences between the groups comprising that factor, on selected items within that question. The percentage of variance attributable to each of the factors on each question was determined through this analysis. Low percentages, of course, indicated that question responses were not primarily attributable to the factors on which the analysis was based. Only a very few responses' differences were attributable to the comparison variables of position, experience, district size or cost per pupil. With the exception of a few instances in which there was a moderate relationship with the position

factor, therefore, the findings to be presented are based on the entire sample of responses.

Findings

Study findings are as follows:

- The most frequently used information sources are colleagues in one's own school system, principals and vice principals, contacts at professional meetings, superintendents, and curriculum specialists. Generally these are sources close to home. At the time of the survey (1968), the least used sources were federally funded R&D and information programs.

- Communications modes tend to be informal, either with colleagues in one's own system or in other school districts. Texts and curriculum materials from outside sources may provide a basis for information exchange and interaction, however.

- Important problems in the utilization of educational information include interpreting statistical results of studies as a basis for adoption; understanding procedures for using information systems; and obtaining precise, structured information from school systems where change is occurring.

- Superintendents and principals have the highest levels of participation in decision-making in all areas. The pattern for district staff personnel is similar to that for superintendents. Teachers have the lowest level of participation in all areas. Superintendents and their staffs are concerned with long range planning, while principals and teachers exercise decision prerogatives in school and classroom functions.

- Of 40 educational decisions, the five regarded as most important include decisions to hire new teachers, to terminate teaching personnel, to install curricular innovations, to recommend new curricula to higher echelons, and to alter student-teacher ratios.

- The greatest deterrents to effective decision-making were lack of sufficient time to study problems, excessive focus on financial aspects of decision-making, need to satisfy many diverse groups, lack of qualified skills to provide research support, and failure to define goals in operational or measurable terms.

- Superintendents regard principals and vice principals, first, and teachers, second, as the leading sources of innovation in their districts. Both principals and teachers see themselves as primary agents of innovation in their school environments. Overall, however, general agreement exists among superintendents, district staff, principals, and teachers as to district sources of innovation. Rankings of internal sources by frequency of use are given in Table 1.

- The most frequently used external source of information is programs in other school districts. About 26 percent of the respondents indicated that they did not know what external sources were used. The four categories of personnel agree highly in their rankings of the extent to which the various external sources are used. Rankings of external sources by frequency of use are given in Table 2.

TABLE 1

RANKINGS OF PRIMARY SOURCES INTERNAL TO SCHOOL DISTRICTS WHICH ARE RESPONSIBLE FOR INNOVATION

Position \ Source	School board	School district superintendent	Assistant Superintendent/Director/Coordinator/for Instruction	Assistant Superintendent/Director/Coordinator/for Curriculum	Educational specialists or consultants at district level	School principal or vice principal	Research office at school level	Teachers
(N = 48) Superintendents	7	5	4	6	3	1	8	2
(N = 64) District Staff	8	6	1	3	2	5	7	4
(N = 134) Principal	8	5	3	6	4	1	7	2
(N = 142) Teachers	7	3	6	5	4	2	8	1
(N = 388) Totals	30	19	14	20	13	9	30	9
Ranks for total sample	7.5	5	4	6	3	1.5	7.5	1.5

$\overline{W} = 0.728$*

*(Kendall coefficient of concordance)

$X^2 = 20.67$ (with 7 d.f. it is significant at the .01 level of confidence)

X^2 test conducted to establish that the $\overline{W}$ value is significantly different from zero

RANKINGS OF PRIMARY SOURCES EXTERNAL TO SCHOOL DISTRICTS FROM WHICH IDEAS ARE DRAWN

TABLE 2

Position \ Source	County office of education	State Department of Education	Title III or PACE Center and Title IV Regional Centers	University education R&D Centers	University courses or University professors	Programs in other school districts	Symposia, professional meetings, workshops	None--idea arose purely within district	Don't know--source external to district is unknown
(N = 48) Superintendents	7	5	9	8	6	1	3	4	2
(N = 64) District Staff	7	4	8.5	8.5	6	2	3	5	1
(N = 134) Principals	6	5	9	8	7	1	3	4	2
(N = 142) Teachers	7	2	8	9	6	3	5	4	1
(N = 388) Totals	27	16	34.5	33.5	25	7	14	17	6
Ranks for total sample	7	4	9	8	6	2	3	5	1

$\overline{W}$ = 0.932*

*(Kendall coefficient of concordance)

X^2 = 29.82 (with 8 d.f. it is significant at the .01 level of confidence)

X^2 test conducted to establish that $\overline{W}$ value is significantly different from zero

Incidents in which planning broke down because of the lack or inadequacy of information were described by 121 respondents. More than 30 percent of these were concerned with curriculum planning, and 26 percent were concerned with grouping, non-graded instruction, and individualized instruction. Other areas in which more information was needed included flexible scheduling, federally-funded projects, merit systems, and building planning. Information identified as inadequate or lacking was grouped into the three major categories of instruction, evaluation, and staffing. Information was most lacking on reading instruction, grouping, science programs, flexible scheduling, salary scheduling, and performance evaluation.

Each information item under each of the six areas of educational planning was rated both for its importance in planning and for the amount of difficulty experienced in obtaining it. Table 3 indicates the item regarded as most important and most difficult to obtain for each of the six planning areas.

Table 3

INFORMATION ITEMS REGARDED BY QUESTIONNAIRE RESPONDENTS AS MOST IMPORTANT AND MOST DIFFICULT TO OBTAIN

Educational Planning Area	Information Highest in "Importance"	Information Most "Difficult to Obtain"
Curriculum planning and development	Effectiveness of current curriculum	Validation of new curriculum before its adoption
Adopting new methods of instruction	Requisite teaching and administrative skills	Time and effort required for teacher retraining
Evaluating the educational program	Identifying objectives in measurable terms	Identifying objectives in measurable terms
Planning new buildings	New directions in which education is moving	Opportunities for research studies
Appraising teacher or administrator effectiveness	Criteria for an effective appraisal system	Comparability of job assignments for purposes of appraising differences in effectiveness
Grouping, promotion and grading practices	Effects on students with respect to maturation, achievment, fast learners	Later academic success of students exposed to innovative methods of grading or grouping

The general conclusions of the study are that specific well-defined problem areas and information needs can be identified by means of instruments similar to the questionnaires used here. Furthermore, the specific information needs of those in various decision-making, planning, implementation, and evaluation roles can be determined so that information content, relevance, format, and procedures can be developed to meet those needs. For example, information must be provided to an interacting system and not just to various kinds of individuals, since it seems clear that many people participate in varying degrees in planning and problem-solving processes. Content and format must be appropriate to group procedural use as well as to individual application.